



# Cable Assembly TP1-TP4 Loss Budget Proposals

## 3 Meter – no FEC Consensus Building

IEEE802.3by Ad Hoc Meeting  
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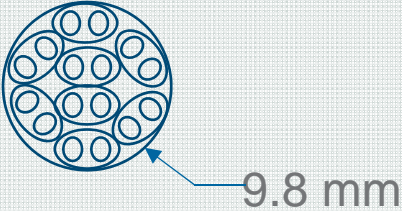
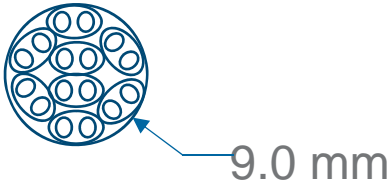
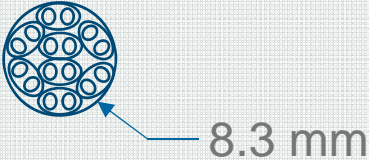
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# Objective

- To allow 3 meter cables to work without FEC we will need a combination of changes which might include -
  - a. Cable assembly budget
  - b. COM threshold
  - c. Tx/Rx parameters
  - d. Package model
- The current draft calls out a cable assembly(TP1-TP4) loss budget of 16.5dB for the 3 meter cable (CA-S)
- To address (a) from above list we are presenting some options to reduce the 16.5dB value
- This should make it easier to allow some changes to b/c/d to enable the 3m-no FEC solution

# Cable Type and Proposed TP1-TP4 Budget

For Reference Only

Length	Cable AWG	Bundled Cable Diameter*	Bend Radius*	TP1-TP4 loss
3 meter	24		68 mm	14.5dB
3 meter	25		63 mm	15.3dB
3 meter	26		58 mm	16dB

- Data is for QSFP-QSFP cable assembly type since that is the largest size of MDI type
- Bundled Cable pictures are illustrative only. They are not to scale and do not represent actual construction

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# Summary

- We are providing the following options for TP1-TP4 cable assembly insertion loss budgets
  - 3m-24AWG – 14.5 dB
  - 3m-25AWG – 15.3 dB
  - 3m-26AWG – 16 dB
- This 802.3by group will determine which value should go in the spec based on system vendor requirements that consider cable size and chip community COM analysis
- We will provide near limit measured data to enable COM parameter analysis and optimization
- Our intent is that our colleagues in the chip community use the data in the COM parameter optimization effort to help the group find a 3m no FEC solution by either changing COM parameters or threshold